

AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 14, 18, and 19 of the Application as follows, without prejudice or disclaimer to continued examination on the merits:

1. (Currently Amended): A method for creating a permanent sub-network connection in a network of connected nodes, the method comprising:

defining a route including a working path for a permanent sub-network connection in the network of nodes from an ingress node to an egress node, wherein the network of nodes are arranged in a mesh structure in which each node is connected to one or more other nodes;

defining a time out period to be associated with the permanent sub-network connection and initiated in response to the detection of a failure in the permanent sub-network connection, the time out period defining a time over which the failure in the permanent sub-network connection is permitted to be corrected prior to a tear down of the permanent sub-network connection;

provisioning the route;

distributing a route description to each node along the route from the ingress node to the egress node; and

configuring each node along the route in accordance with the route description to provide data traffic services from the ingress node to the egress node;

wherein the permanent sub-network connection comprises a permanent grouping of one or more SONET/SDH paths that pass through a node in the network which is set up and torn down with a signaling and routing protocol.

2. (Original): The method of claim 1 wherein the step of defining the route includes receiving an explicit route definition from a user defining the working path.

3. (Original): The method of claim 1 wherein the step of defining the route includes dynamically determining a working path including signaling nodes in the network to determine an optimal route between the ingress node and the egress node.

4. (Original): The method of claim 1 wherein the step of provisioning the route includes creating a DTL to describe the route.
5. (Original): The method of claim 4 wherein the step of distributing the route includes distributing the DTL to all other nodes along the route.
6. (Original): The method of claim 1 wherein the step of provisioning the route includes determining if a proposed route satisfies network constraints.
7. (Original): The method of claim 1 wherein the step of provisioning the route includes determining if resources are available in each node in a proposed route.
8. (Original): The method of claim 7 wherein the step of determining if resources are available includes signaling each node in the proposed route to determine if resources are available in each respective node.
9. (Original): The method of claim 1 wherein the step of defining a time out period includes determining an amount of time to wait prior to clearing resources for the route after a failure has been detected along the route.
10. (Original): The method of claim 1 wherein the step of provisioning the route includes determining if a proposed route satisfies predetermined node requirements for each node in the proposed route.
11. (Original): The method of claim 10 wherein the predetermined node requirements include quality of service requirements for a given node.

12. (Previously Presented): The method of claim 1 further comprising:
determining if the route can be provisioned, and if not, automatically calculating a working path that satisfies network and node requirements.
13. (Previously Presented): The method of claim 12 further comprising:
determining if no route can be defined that satisfies the network and node requirement,
and
not provisioning the route.
14. (Currently Amended): A method for deallocating resources in a permanent sub-network connection, the permanent sub-network connection defining a connection between an ingress node and an egress node in a network of connected nodes, the method comprising:
detecting a failure in a path included in the permanent sub-network connection between an ingress and egress node;
initiating a predetermined time out period in response to detection of the failure;
determining if the predetermined time out period has expired since detection of the failure;
if the time out period has expired, determining if the failure has been corrected; and
if the failure has not been corrected, deallocating resources associated with the permanent sub network connection;
wherein the network of connected nodes are arranged in a mesh structure in which each node is connected to one or more other nodes; and
wherein the permanent sub-network connection comprises a permanent grouping of one or more SONET/SDH paths that pass through a node in the network which is set up and torn down with a signaling and routing protocol.
15. (Previously Presented): The method of claim 14 wherein the step of determining if a predetermined time out period has expired includes retrieving a time out period value associated with the failed permanent sub-network connection and initiating a timer with the time out period value.

16. (Original): The method of claim 14 wherein the step of deallocating resources includes signaling, by one or more nodes in a path forming the permanent sub-network connection between the ingress and egress nodes, to other nodes in the path instructions to tear down the path.

17. (Original): The method of claim 14 further comprising storing route information associated with the permanent sub-network connection prior to tear down such that at a time for restoring the permanent sub-network connection, no optimal routing determination is required.

18. (Currently Amended): A method for deallocating resources in a network of connected nodes, the method comprising:

detecting a failure in a path in the network;

determining if the path includes a permanent sub-network connection, and, if so, for each permanent sub-network connection:

initiating a predetermined time out period in response to detection of the failure;

determining if the predetermined time out period has expired since detection of the failure;

if the time out period has expired, determining if the failure has been corrected; and

if the failure has not been corrected, deallocating resources associated with the permanent sub-network connection;

wherein the network of connected nodes are arranged in a mesh structure in which each node is connected to one or more other nodes; and

wherein the permanent sub-network connection comprises a permanent grouping of one or more SONET/SDH paths that pass through a node in the network which is set up and torn down with a signaling and routing protocol.

19. (Currently Amended): A method for deallocating resources in a network of connected nodes, the method comprising:

detecting a failure in a path in the network;

immediately clearing resources for all sub-network connections traversing the path; and

in response to detecting the failure, waiting a predetermined time out period prior to clearing all resources for each permanent sub-network connection traversing the path;

wherein the network of connected nodes are arranged in a mesh structure in which each node is connected to one or more other nodes; and

wherein the permanent sub-network connection comprises a permanent grouping of one or more SONET/SDH paths that pass through a node in the network which is set up and torn down with a signaling and routing protocol.